

## A NEW SPECIES OF ANOPLURA FROM THE PHILIPPINES

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Included in a collection of Anoplura from the 1946-47 Chicago Natural History Museum Expedition to the Philippines is a new species of *Polyplax* from *Bullimus*. The new louse species is described in this paper and compared with certain other species of *Polyplax* which infest rats related to *Bullimus* (*Bandicota*, *Nesokia*, and *Rattus s. strictu*).

I am indebted to Dr. Rupert L. Wenzel of the Chicago Natural History Museum for sending the collection for study.

### *Polyplax bullimae*, n. sp. (Figs. 5, 6, 8, 9)

*Holotype* male from *Bullimus bagobus*, Philippines, Davao Province, Mindanao, east slope of Mt. McKinley, 5400 ft., 20 August 1946, H. Hoogstraal collector, Field number 636, CNHM mammal catalogue number 56201. Three male *paratypes* bear the same data as the holotype. *Allotype* female, one male and two female *paratypes* bear data as the holotype except they were collected 19 August 1946 at 5500 ft., Field number 635, CNHM mammal catalogue number 56200. Holotype, allotype, two male and one female *paratypes* deposited in the collections of the Chicago Natural History Museum; two male and one female *paratypes* deposited in the collections of the United States National Museum.

*Diagnosis*: Superficially resembling *Polyplax asiatica* Ferris and *P. insulsa* Ferris. *P. bullimae*, n. sp., is like these two species in having the abdominal plates reduced and the head elongate and lacking postantennal angles. Both sexes of *bullimae* are separable from *insulsa* and *asiatica* in not having the dorsal apical seta of paratergal plates II and III greatly elongate, but with both apical setae of paratergal plate VI longer than the plate. The male is separable from *insulsa* and *asiatica* in that the pseudopenis articulates with the tip of the parameres in *bullimae* (Fig. 9), not with the parameres surrounding the pseudopenis (Figs. 3, 4); and further separable in that the third antennal segment is modified and bears a short stout seta. Female *bullimae* is separable from *asiatica* and *insulsa* in that paratergal plates III-VI do not have the ventral apical angle produced into a prominent lobe.

*Description*: Male (Fig. 6): *Head* elongate, lacking marked

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postantennal angles and not broadened behind antennae, gular region raised; antennae set well back from rounded apex of head; basal antennal segment not especially enlarged, third segment with distal angle produced and bearing a short, stout seta. Sensory pits of antennal segments 4 and 5 not contiguous. *Thorax* not as long as head; sternal plate with central portion irregularly triangular and sclerotized, outer rim semi-membranous, with anterior projection as in Fig. 8. *Legs*: Second pair of legs slightly larger than first, third pair much the largest. Pulvillus-like membranous lobe on inner margin of tarsi of first and second legs very prominent and discrete. *Abdomen* with narrow tergal and sternal plates; 1 row of setae per segment, except that ventrally segments 2 and 3 have 2 rows; dorsally with 2 or 3 setae laterally off the plates on each segment. Paratergal plates all poorly sclerotized; no apparent division in plate II; plates III-V with apical angles not produced, and bearing 2 short apical setae; plate VI similar but with apical setae longer than plate. *Genitalia* as in Fig. 9; pseudopenis narrow, longer than parameres and articulating with apices of parameres.

Female (Fig. 5): *Head* as in male except third antennal segment not modified. *Thorax* and *legs* as in male. *Abdomen* with 2 plates and 2 rows of setae per segment both dorsally and ventrally; plates greatly reduced, particularly the sternal plates and posterior tergal plate of each segment, these being interrupted, usually occurring merely as areas of sclerotization around each seta; one seta far removed laterally off plates on segments 3-7 both dorsally and ventrally. Paratergal plates as in male. *Genitalia* as in figure; genital plate large, poorly sclerotized; entire margin of vulva with delicate fimbriate processes, lateral setigerous lobes of the eighth segment (formerly called gonopods) suppressed.

*Length*: Male 1.0-1.2 mm., female 1.3-1.4 mm.

#### Comment on *Polyplax asiatica* Ferris and *P. insulsa* Ferris.

Ferris did not publish complete drawings of *Polyplax asiatica* in his original description (a figure of the male genitalia only was included). Further collections of *P. asiatica* represented in the United States National Museum make possible a more extended comparison of *P. asiatica* and *insulsa* than that given by Ferris. Complete drawings of both male and female *asiatica* are included in this paper to facilitate comparison with closely related species (Figs. 1, 2).

*P. asiatica*, although very close to *insulsa*, differs in the following ways: The head is at least one and one-half times as long as broad in both sexes of *asiatica*; but not in *insulsa*. The thoracic sternal

plate is not so broad in relation to its length as in *insulsa*. The thoracic and abdominal spiracles are much larger in *insula* than in *asiatica*. Female *asiatica* lacks developed tergal and sternal plates except for vestiges on the most anterior part of the abdomen and the usual plates on the genital segments. Further, the prolonged ventral apical angle of paratergal plates III-VI is rounded in female *asiatica*, acute in *insulsa*. The male genitalia differ slightly, the parameres of *insulsa* being longer and not so strongly incurved apically as in *asiatica* (Figs. 3, 4). The two figures of the genitalia of *asiatica* illustrate how flattening of the specimen during mounting may change the apparent shape. Both specimens drawn were collected off *Nesokia suilla*, one from Faiyum Province and one from Beheira Province, Egypt.

Ferris noted in his original description of *insulsa* that both males and females have a small tooth-like projection at the outer proximal angle of the tarsus of the third leg. This projection is not visible on the male and female paratypes of *insulsa* in the United States National Museum (from *Epimys sabanus* [*Rattus sabanus*], Bunguran, Natuna Islands, USNM mammal catalogue No. 104765).

Blagoveshtchensky (1950) described *Polyplax turkestanica* from many specimens collected off *Rattus turkestanicus* from Stalinbad, Tadzhikistan, Russia. In the same publication he set up the subspecies *turkestanica major* based on large numbers of specimens from *Nesokia indica* taken at Stalinabad, and stated that in his opinion the females reported by Ferris as *asiatica* which were taken from *Nesokia hardwickii* (now known as *Nesokia indica*) from Baluchistan probably belonged to the subspecies *turkestanica major*.

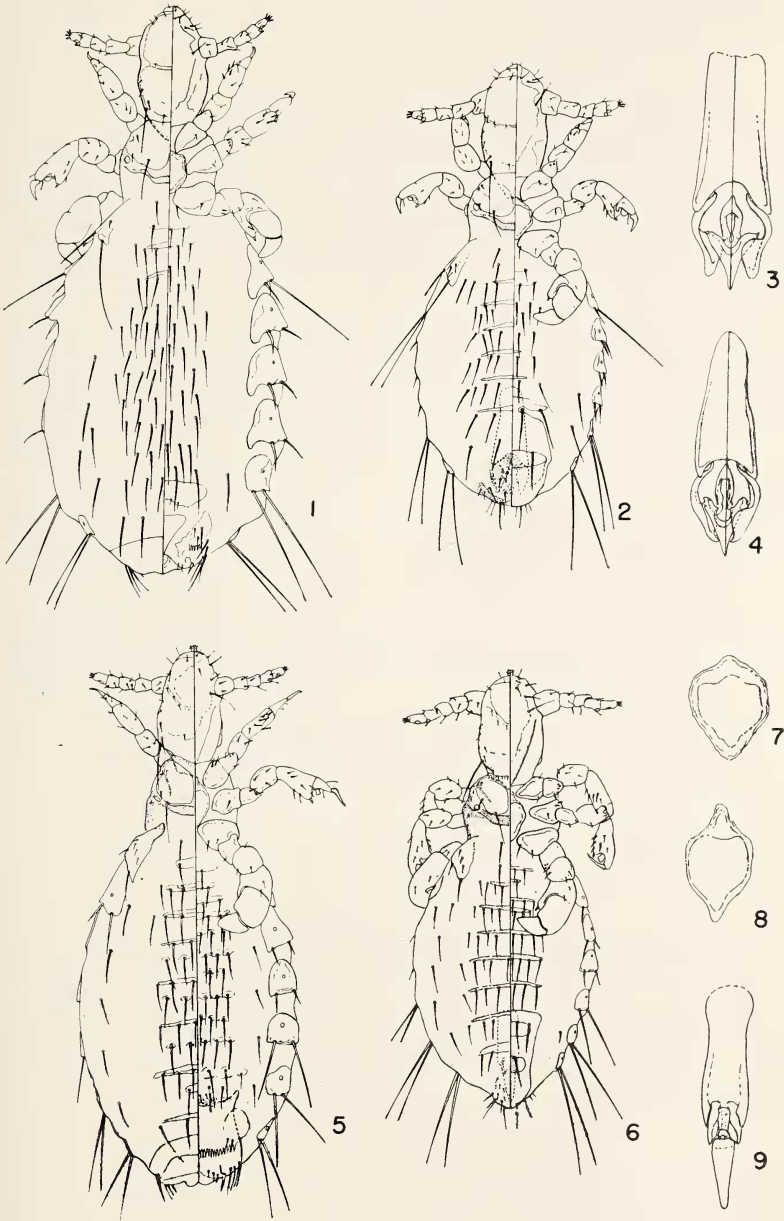
Blagoveshtchensky apparently was misled by supposing that head shape was the same in *asiatica* as in *insulsa*, since he stipulated that his specimens had heads at least one and one-half times as long as broad as opposed to *insula* and *asiatica*. *P. turkestanica major*

#### EXPLANATION OF PLATE

*Polyplax asiatica* Ferris, 1923: Fig. 1, female (Egypt, Faiyum Province, *ex Nesokia suilla*). Fig. 2, male (Egypt, Beheira Province, *ex Nesokia suilla*). Fig. 3, male genitalia (Beheira Province). Fig. 4, male genitalia (Faiyum Province). Fig. 7, thoracic sternal plate, female (Faiyum Province).

*Polyplax bullimae*, new species: Fig. 5, allotype female. Fig. 6, holotype male. Fig. 8, thoracic sternal plate, allotype female. Fig. 9, genitalia, holotype male.

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was separated from the nominate subspecies by being usually somewhat larger and with a slightly longer head (total length: *t. turkestanica* ♂ 1.02–1.25 mm.; ♀ 1.4–1.8 mm.; *t. major* ♂ 1.41–1.59 mm.; ♀ 1.6–2.01 mm.).

In my opinion both *t. turkestanica* and *t. major* are synonyms of *asiatica* Ferris. Blagoveshtchensky's figures of the female paratergal plates, male genitalia, thoracic sternal plate and female dorsum of *t. turkestanica* are compatible with specimens of *asiatica* from Egypt and Baluchistan. Egyptian specimens of *asiatica* have total lengths of 1.0–1.05 mm. in the ♂ and 1.35–1.53 mm. in the ♀. The two Baluchistan females are 1.2 and 1.35 mm. respectively.

Four female *asiatica* in the United States National Museum collections, from *Bandicota* sp., Formosa, measure 1.6–1.75 mm., and differ slightly in the shape of the paratergal plates from the Egyptian, Baluchistanian and Tadjhikistanian specimens. The collection of larger series, including males, from Formosan *Bandicota* may prove these specimens not to be conspecific with *asiatica*. However, the slight differences exhibited in the present four females do not, in my opinion, warrant the assumption that they should be separated from *asiatica*.

#### LITERATURE CITED

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#### ANNOUNCEMENT

**The Highlands Biological Station**, Highlands, North Carolina, announces the year-round operation of the new research laboratory made possible by a grant from the National Science Foundation. Lodging is available throughout the year; dining hall open from June till September. For details, write the Executive Director, Prof. Thelma Howell.